

CLAIMS

1. A methanol-reforming catalyst, characterized by containing an intermetallic compound Ni_3Al .

2. The methanol-reforming catalyst according to Claim 1, characterized by containing the intermetallic compound Ni_3Al and coexistent components, wherein the contents of Ni and Al are respectively 77 to 95 % and 5 to 23 % with respect to the total element composition (wt %) including the coexistent components.

3. The methanol-reforming catalyst according to Claim 1 or 2, characterized by being a powder or granule prepared by machining and mechanically polishing a melt-prepared ingot or in an atomization process.

4. The methanol-reforming catalyst according to Claim 1 or 2, characterized by being a cold-rolled foil prepared in cold-rolling method by using a Ni_3Al alloy prepared by unidirectional solidification method.

5. The methanol-reforming catalyst according to any one of Claims 1 to 4, wherein carbon nanofibers containing metal fine particles are deposited on the surface thereof.

6. The methanol-reforming catalyst according to Claim 5, wherein the metal fine particles are fine particles of at least one of the metals of Ni and Ni_3Al .

7. The methanol-reforming catalyst according to any one of Claims 1 to 6, characterized by being alkali or acid treated.

8. A methanol-reforming method by using the catalyst according to any one of Claims 1 to 7, characterized in that hydrogen is produced by bringing methanol or a liquid mixture of methanol and water into contact with the catalyst.

9. The methanol-reforming method according to Claim 8, wherein the methanol or the liquid mixture of methanol and water is brought into contact with the catalyst that is previously subjected to a hydrogen reduction treatment.